Abstract

An alkali fuel cell comprises a solid stack consisting of a first electrode, a solid membrane conducting hydroxide ions and a second electrode, each electrode comprising an active layer that is in contact with the solid membrane. The material forming the active layer of each electrode comprises at least a catalytic element, an electronic conductive element and an element conducting hydroxide ions. The element conducting hydroxide ions is a polymer having vinylaromatic units comprising a quaternary ammonium function and a hydroxide ion OH^- is associated with each quaternary ammonium function. One such alkali fuel cell is unaffected by carbonation and maintains good electrochemical performances.